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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,579	11/21/2003	Kenneth Edward Anthony Omersa	THOM-0029	3246
23377 7590 08/30/2007 WOODCOCK WASHBURN LLP CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891			EXAMINER HODGE, ROBERT W	
			ART UNIT 1745	PAPER NUMBER
			MAIL DATE 08/30/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/719,579

Applicant(s)

OMERSA, KENNETH EDWARD  
ANTHONY

Examiner

Robert Hodge

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-28,30-34,36-59 and 61-73 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,8-10,13,14,21,23,25,30,33,65-68,71 and 73 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 6,7,9,11,12,15-20,22,24,26-28,31,32,34,36-59,61-64,69,70 and 72.

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 7/11/07 have been fully considered but they are not persuasive. With respect to the rejection under 35 U.S.C. 102(b) applicants arguments are not commensurate in scope with the claims. Claims 1 and 65 only recite a member but do not recite what "member" of the fuel cell it represents, therefore it can be a number of components within the fuel cell. Furthermore it is submitted that even porous structures have non-porous regions within them such as on the nanoscopic and microscopic levels and because the non-porous regions exist between the porous regions the porous region is bounded by the non-porous regions. Applicants further state that the secondary reference would not obviate the instantly claimed invention. Firstly the secondary reference to Steele explicitly states in paragraph [0012], that "a porous region and a non-porous region bounding the porous region". Furthermore applicants recited "the member comprising metallic titanium or an alloy thereof comprising at least 51 wt% titanium" in the alternative and have also only elected to have the non-alloyed titanium examined, therefore applicants have added a non-elected species to the independent claims which is still recited in the alternative. Therefore the rejections will be maintained.

### ***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 8, 9, 13, 14, 21, 23, 25, 30, 33, 65-67, 71 and 73 rejected under 35 U.S.C. 102(b) as being anticipated by EP 1225648 hereinafter Shibata.

Shibata teaches a solid oxide ceramic fuel cell comprising a non-polymeric electrolyte, a plurality of thin film adhering cathode layers (i.e. foil and is a structural member) made of titanium (non-alloyed) which are non uniformly dense (i.e. having porous and non-porous regions), wherein a porous and electrically collecting cathode layer is formed on the cathode layer which can comprise titanium or ceramic material and said cathode layer indirectly supports the electrolyte (figure 2 and paragraphs, [0032], [0038], [0039], [0047], [0048] and [0063]). The Examiner notes that no patentable weight has been given to the product-by-process limitations in claims 21 and 23 as to how the porous region is formed as well as the product-by-process limitation found in claim 25 as to how the member is formed, see MPEP 2113 and because the final product has been found in the prior art it reads on the claims as so recited.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 5, 10 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of U.S. Pre-Grant Publication No. 2002/0048699 hereinafter Steele.

Shibata as discussed above is incorporated herein. Shibata further teaches that the solid electrolyte layer is not limited to the materials listed in the disclosure (paragraph [0039]).

Shibata does not teach that the porous region is bounded by the non-porous region or that the electrolyte is cerium gadolinium oxide.

Steele teaches a solid oxide fuel cell comprising a ferritic stainless steel substrate comprising titanium having a porous region bounded by a non-porous region, with an electrolyte coating of cerium gadolinium oxide located thereon (paragraphs [0012], [0014], [0065] and [0066]).

At the time of the invention it would have been obvious to one having ordinary skill in the art to include cerium gadolinium oxide as the electrolyte and for the porous region to be bound by the non-porous region in Shibata as taught by Steele in order to match the thermal expansion of the different layers with one another so that they don't separate from each other and to effectively seal the fuel cells so that the reactants don't leak from the fuel cells thus preventing an explosion hazard.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Hodge whose telephone number is (571) 272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RWH



**JONATHAN CREPEAU**  
**PRIMARY EXAMINER**